

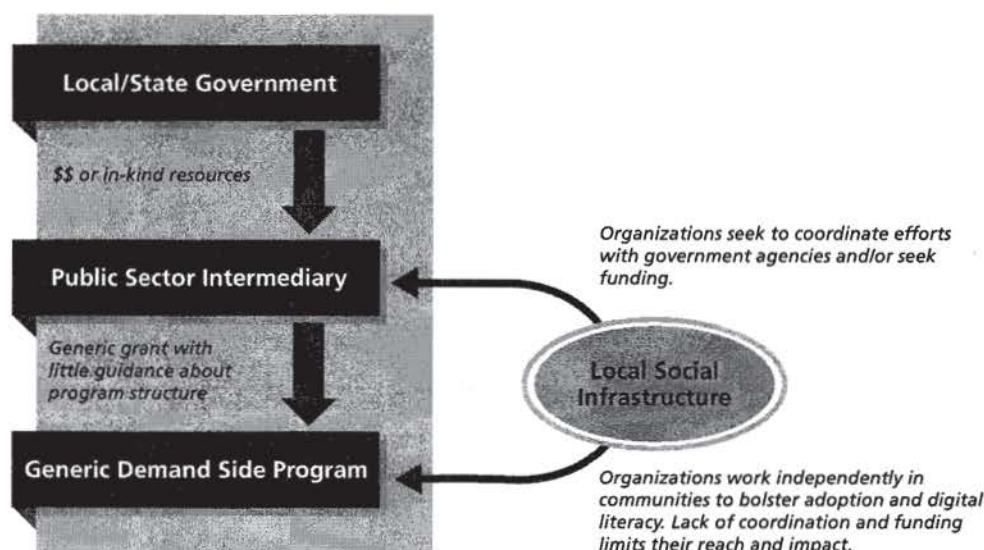
**Assessment.** Viewed as a whole, the many examples of ineffective government action to address supply side issues in the broadband space constitute a persuasive case that public action has the effect, intended or not, of positioning a city or town as a competitor in the broadband space.

### 6.3 Demand Side PPPs to Increase Broadband Adoption: Examples

Numerous adoption-related challenges exist across the nation.<sup>1040</sup> In response, a variety of public-private partnerships have been deployed at the state and local levels to spur increased broadband adoption and use in key demographics (e.g., senior citizens, people with disabilities, low income families, etc.) and sectors (e.g., education, energy, healthcare, etc.). While programs vary greatly, two general frameworks—a “top-down” model and a “collaborative” model—capture the broad structural components of each approach.

The top-down model, illustrated in Figure 6.3, positions local and state governments as the primary drivers of broadband connectivity on the demand side.

Figure 6.3: Top-Down Model for Addressing Demand Side Issues



This approach assumes public sector entities possess the expertise to successfully address demand side challenges hindering broadband adoption and utilization. Figure 6.3 depicts the somewhat linear, uncoordinated nature of many top-down efforts and highlights the marginalization of key partners, especially those in local social infrastructures (Section 6.3.2 examines specific examples of how this model has been deployed). A preference for purely public action in this context tends to foreclose a broader array of PPPs.

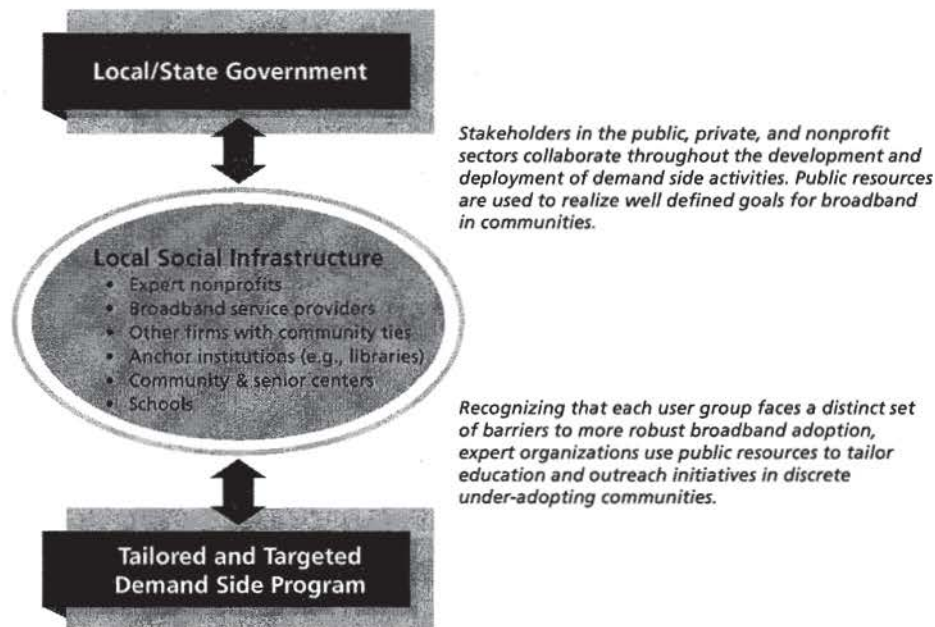
Figure 6.4 depicts an alternative collaborative model, an approach reflected in many effective demand side PPPs operating across the country. This model reveals local and state governments have important supporting roles to play in boosting broadband adoption and enhancing digital literacy.

Effective approaches to addressing lingering demand side challenges embody many of the same principles at the heart of the supply side PPPs discussed in section 6.2 (specific examples of effective demand side programs are discussed in section 6.3.1). Foremost among these is recognition by public sector entities of the wide range of resources and expertise already available in the private and nonprofit sectors. PPPs developed to

<sup>1040</sup> See *supra*, section 3.1.2, for additional discussion of these challenges and data regarding their impacts.

address broadband adoption and digital literacy issues also tend to thrive in areas where a strong social infrastructure is already in place.<sup>1041</sup> In the broadband context, there is wide agreement that the institutions and organizations at the heart of these social infrastructures—e.g., community centers, libraries, schools, senior centers, churches, and companies like ISPs, with roots in the municipality—are ideal conduits for channeling education, outreach, and training programs because they have succeeded in engendering high levels of trust with residents and have demonstrated an ability to deliver community-specific services.<sup>1042</sup>

**Figure 6.4: Collaborative Model for Addressing Demand Side Issues**



In sum, targeted efforts developed and implemented by an expert in the private or nonprofit sector in partnership *with* local or state government (e.g., training courses at senior centers developed specifically for older adults) are typically more effective than training services developed and implemented primarily *by* state or local government (e.g., one-size-fits-all computer training programs at a community center).

### 6.3.1 Examples of Effective Collaborative Demand Side PPPs

The following examples illustrate a wide range of effective demand side PPPs. These include programs that focus on:

- Education and using new technologies to ensure middle school and high school students are adequately prepared for the 21st century workplace;
- Empowering disadvantaged communities (e.g., low-income areas) with digital literacy skills; and
- Meeting the needs of a particular demographic group (e.g., older adults).

<sup>1041</sup> Local social infrastructures include “the activities, organizations, and facilities that support a community’s need to form and maintain social interactions and relationships.” See *Social Infrastructure*, at p. I.4, Livable New York Resource Manual (Dec. 2011), available at <http://www.aging.ny.gov/LivableNY/ResourceManual/DemographicAndSocialTrends/I4.pdf>.

<sup>1042</sup> See, e.g., *National Broadband Plan* at p. 171; *Toward a More Inclusive Measure of Broadband Adoption*.



An expansive menu of options exists for state and local policy makers to effectively engage with private and nonprofit organizations to address barriers to adoption and other demand side issues.<sup>1043</sup> Common across the examples discussed below is having local and state governments engage as conduits for strategically channeling funding or convening groups of expert firms and nonprofits to accurately calibrate outreach and training initiatives. Such approaches are especially instructive at a time when public resources are extremely scarce and the public appetite for significant investments in high-risk ventures is meager.<sup>1044</sup>

## Education-Oriented Demand Side Programs

Many of the most effective demand side partnerships position public schools, especially those with large populations of disadvantaged youths, as the nucleus of comprehensive digital literacy programs. Curriculums and other programmatic elements typically revolve around using broadband-enabled education technologies—both in school and at home—to provide more individualized and expansive learning experiences. Some also attempt to inspire students to pursue careers in related information technology or STEM (science, technology, engineering and mathematics) fields. The following examples illustrate the diversity of approaches deployed in this particular context and highlight the key roles local and state government partners have played in their implementation.

**Connected Learning.** In New York City, the Connected Learning initiative was a PPP wherein the city leveraged federal stimulus funding to forge partnerships with private and nonprofit organizations in an effort to “support highly effective and technology-intensive teaching; deepen the home/school connection; strengthen in-school tech capacity; and narrow the digital divide in underserved communities.”<sup>1045</sup> Funds were channeled through the local Department of Education and used to support the provision of free laptops and digital literacy training services to qualifying middle school students and their families.<sup>1046</sup> Local government served as the organizer and coordinator of this initiative, but it outsourced most programmatic duties—from curriculum development to actual training of students, teachers, and parents—to private and nonprofit partners including Time Warner Cable and Cablevision, both of which provided subsidized monthly broadband subscriptions to qualifying families; CFY, a nonprofit that provided free educational software and training to participating families and students (see below for additional information); a collection of organizations that provided in-school training and tech support; and Microsoft and Intel, which provided computing devices and related technical support.<sup>1047</sup>

Over the course of the program, which ran from September 2010 through June 2013, 75 middle schools participated, covering tens of thousands of students throughout the city.<sup>1048</sup> Over 50,000 students and parents participated in Family Learning Workshops, which were convened in order to ensure the parents of participating

1043 Examples of possible non-traditional ways in which local and state government can help direct funding to demand side programs include experimenting with social impact bonds and conditional cash transfers in the broadband context. Social impact bonds (SIBs) are a new way of approaching the financing of social programs that benefit society. In a nutshell, an SIB represents a “partnership in which philanthropic funders and impact investors—not governments—take on the financial risk of scaling up. Nonprofits deliver the program; the government pays only if the program succeeds.” See *From Potential to Action: Bringing Social Impact Bonds to the US*, at p. 4, McKinsey & Co. (May 2012), available at [http://mckinseysociety.com/downloads/reports/Social-Innovation/McKinsey\\_Social\\_Impact\\_Bonds\\_Report.pdf](http://mckinseysociety.com/downloads/reports/Social-Innovation/McKinsey_Social_Impact_Bonds_Report.pdf). To date, there have been only a few pilot programs to test the efficacy of SIBs (e.g., one in Britain attempting to reduce recidivism rates for recently released prisoners). Determining whether and how this particular approach might be viable in addressing demand side issues could be a worthwhile endeavor. With regard to conditional cash transfers (CCTs), these described a means of “direct[ing] funds toward qualified households or individuals based on a conditional behavior, such as children’s school attendance.” See *Savings-Linked Conditional Cash Transfers: Lessons Challenges & Directions*, at p. 1, New America Foundation (May 2011), [http://gap.newamerica.net/sites/newamerica.net/files/program\\_pages/attachments/SLCCTColloquiumReport.pdf](http://gap.newamerica.net/sites/newamerica.net/files/program_pages/attachments/SLCCTColloquiumReport.pdf). These are more widely used than SIBs and have proven successful in numerous contexts where goals and funding mechanisms are clearly defined. Adapting CCTs for the purpose of increasing meaningful use of broadband services could also be a worthwhile experiment.

1044 See *supra*, section 3.2.1, for additional discussion and data regarding the volatile state of public finances.

1045 See New York City Dept. of Education, Connected Learning—About the Program, <http://schools.nyc.gov/community/innovation/ConnectedLearning/about/default.htm> (“Connected Learning—About the Program”).

1046 *Id.*

1047 *Id.*

1048 See New York City Dept. of Education, Connected Learning—Participating Schools, <http://schools.nyc.gov/community/innovation/ConnectedLearning/schools/default.htm>.



students possessed the digital literacy skills needed to reinforce lessons at home.<sup>1049</sup> These participants also benefited from a number of related resources and educational opportunities, including targeted curriculums and software designed to seamlessly integrate new digital tools into classroom learning.<sup>1050</sup> Equally important, participating partners and program administrators worked together to study implementation practices and identify “promising practices” that can be used by any school—in New York City or elsewhere—interested in using new technologies to enhance educational outcomes.<sup>1051</sup> Many of these address key barriers to more robust use of broadband-enabled tools in school (e.g., the need for technology-focused professional development resources).<sup>1052</sup>

**MOUSE.** The nonprofit MOUSE launched in 1997 to assist in bringing Internet access to public schools across New York City.<sup>1053</sup> However, once most schools were wired, a need for technical support quickly emerged.<sup>1054</sup> MOUSE leveraged its existing apparatus and developed a training program for students to become onsite IT experts.<sup>1055</sup> These groups of students eventually evolved into MOUSE Squads, initially deployed in public—and then charter—schools across New York City.<sup>1056</sup> These Squads represent a “cost-effective solution to the problem of inadequate levels of on-site support in schools and the need to serve the 21st century educational needs of students.”<sup>1057</sup> Moreover, participation in these groups “broadens the learning and ‘life opportunities’ of youth by providing authentic hands-on experiences that build skills and the motivation to succeed in school and life.”<sup>1058</sup>

This program has had discernible impacts on both students and schools. The vast majority of MOUSE Squad members—87 percent—reported they were better prepared for college because of the program.<sup>1059</sup> Similarly, 87 percent said that, after participating in the programs, they were “more motivated to pursue a career in [a STEM field].”<sup>1060</sup> In addition, one study of MOUSE found participating students had increased academic performance.<sup>1061</sup> And for schools, these have been fruitful partnerships: a Citibank study found that “schools running the MOUSE program save an estimated \$19,000 per year in technology support costs.”<sup>1062</sup> As a result of its proven effectiveness, the model has been enthusiastically adopted by school administrators across the country.<sup>1063</sup>

**The Learning about Multimedia Project (LAMP).** LAMP partners with public schools to teach media and digital literacy skills to students of all ages. To do so, it asks participants to interact with digital media in unique ways (e.g., by “talking back to media” in the form of edited online videos).<sup>1064</sup> The wide range of programs offered by LAMP requires participants to actively engage new media to learn how they work and appreciate the many issues (e.g., privacy, online security) implicated by their use.<sup>1065</sup> Critically important from the standpoint of school officials is the fact that LAMP’s programs align with 61 standards of the Common Core initiative.<sup>1066</sup> LAMP also plays a role in local workforce development: in March 2013, it joined with several

1049 *Connected Learning—About the Program.* See also CFY, What We Do—A National Opportunity, <http://cfy.org/what-we-do/a-national-opportunity/> (providing a detailed discussion of how and why CFY developed its family workshop approach).

1050 *Connected Learning—About the Program.*

1051 See New York City Dept. of Education, Connected Learning—Promising Practices, <http://schools.nyc.gov/community/innovation/ConnectedLearning/PromisingPractices/default.htm>.

1052 *Id.* Barriers to broadband adoption in the education space were identified in section 3.1.2, *supra*.

1053 See MOUSE, About, <http://mouse.org/about-mouse>; MOUSE, Founders & History, <http://mouse.org/about-mouse/founders-history>.

1054 *Id.*

1055 *Id.*

1056 See MOUSE, MOUSE Squads, <http://mouse.org/programs/mouse-squad-0>.

1057 See MOUSE Squad, About, <http://mousesquad.org/about>.

1058 *Id.*

1059 See Mouse, About—Impact, <http://mouse.org/about-mouse/impact>.

1060 *Id.*

1061 *Id.*

1062 *Id.*

1063 See MOUSE, Programs, <http://mouse.org/programs>.

1064 See The LAMP, About, <http://www.thelampnyc.org/about>.

1065 See The LAMP, Programs, <http://www.thelampnyc.org/programs/>.

1066 See The LAMP, Home, <http://www.thelampnyc.org/>.



other nonprofits in collaborating with local policy makers in New York City to roll out a number of digital workforce training initiatives.<sup>1067</sup>

**CFY.** CFY uses new technologies to improve learning environments in school and at home in an effort to strengthen the school-home connection.<sup>1068</sup> Launched in New York City a decade ago, CFY developed a national network of affiliates through which it brings laptops and learning software into schools and homes in low-income areas. Its approach has four core components: (1) supporting school leaders in “driving new instructional approaches and developing deeper school-home connections;” (2) providing professional development to educators and administrators to “help them adopt blended learning strategies within the classroom, extend learning beyond the classroom, and engage families in the learning process;” (3) hosting family workshops where “families and children learn together about a wide range of digital learning activities and experience a learning partnership model that they can continue in the home;” and (4) providing home technology support for families.<sup>1069</sup> Like most nonprofits in this space, the success of CFY’s approach hinges on PPPs with local government and private funders.

**Assessment.** Expert technology-focused nonprofits working in the education space are natural partners for local governments interested in harnessing broadband to improve outcomes and empower students with critical digital literacy skills. At a time when there are numerous imperatives for fostering core technology skills and piquing interest in STEM careers, local governments should engage these groups and design approaches that fit the needs of their particular school system.

### Demand Side Programs Focused on Empowering Disadvantaged Communities

Millions of households in disadvantaged communities lack high-speed Internet access.<sup>1070</sup> The reasons for remaining offline are varied, but, as discussed in section 3.1.2, the primary impediment is a widespread perception that broadband is not relevant or useful to them.<sup>1071</sup> In response, cities and states are working more and more with private and nonprofit firms to provide the unconnected in these communities with clear and compelling value propositions for going online, as well as the skills needed to use their connections in meaningful ways. Properly designed and implemented, these programs typically succeed in raising broadband adoption rates and empowering new users with critical skills. The following examples highlight several distinct approaches to empowering disadvantaged community members in low income, mostly minority areas.

**Internet Essentials.** Internet Essentials is a broadband adoption and training program for qualifying low-income households that is administered by Comcast, the nation’s largest broadband service provider.<sup>1072</sup> Comcast launched the program in 2011 throughout the company’s national footprint.<sup>1073</sup> To qualify for the program, a family must reside in Comcast’s service territory and “have at least one child eligible to participate in the National School Lunch Program.”<sup>1074</sup> Participating families will be offered discounted Internet service and a low-cost computer.<sup>1075</sup> Enrollees also have access to a broad selection of support and training services, including educational resources for students, training services (in person and online) for families and workforce

1067 See Press Release, *Mayor Bloomberg Announces New “link” Initiative To Connect Low-income New Yorkers With Economic Opportunities*, March 25, 2013, Office of the Mayor of the City of New York, available at <http://www1.nyc.gov/office-of-the-mayor/news/111-13/mayor-bloomberg-new-link-initiative-connect-low-income-new-yorkers-economic#3>.

1068 See CFY, *What We Do*, <http://cfy.org/what-we-do/>.

1069 See CFY, *Digital Learning Program*, <http://cfy.org/what-we-do/the-cfy-digital-learning-program/>.

1070 Recent data indicate that about a quarter of households with annual incomes below \$30,000 do not use the Internet or email. Similarly, about a quarter of Hispanic adults and 15 percent of Black adults do not use the Internet or email. In addition, 41 percent of those without a high school diploma remain offline. See Kathryn Zickuhr, *Who’s Not Online and Why*, at p. 5, Pew Internet & American Life Project (Sept. 2013), available at [http://pewinternet.org/~media/Files/Reports/2013/PIP\\_Offline%20adults\\_092513\\_PDF.pdf](http://pewinternet.org/~media/Files/Reports/2013/PIP_Offline%20adults_092513_PDF.pdf).

1071 See, e.g., *id.* at p. 6 (finding that the primary reason for remaining offline was “relevance,” which encompassed a range of reasons and perceptions regarding the Internet, including “not interested,” “waste of time,” “too busy,” and “don’t need/want.”).

1072 See Internet Essentials, *Home*, <http://www.internetessentials.com/>. See also *Toward a More Inclusive Measure of Broadband Adoption* at p. 2562-2566 (profiling the program).

1073 *Toward a More Inclusive Measure of Broadband Adoption* at p. 2562.

1074 See Internet Essentials, *How it Works*, <http://www.internetessentials.com/how-it-works>.

1075 *Id.*



tools for adults.<sup>1076</sup> Through its first two and a half years, Internet Essentials connected over 300,000 low-income households—or about 1.2 million people—to the Internet.<sup>1077</sup> In addition, 23,000 low-cost computers have been distributed, and the program provided support for free digital literacy training for more than 1.6 million people.<sup>1078</sup> Ninety-eight percent of participants use their discounted Internet service for homework, while 59 percent say that “the Internet helped someone in their household find a job.”<sup>1079</sup>

Successfully deploying such a program at scale hinged on close coordination between the Internet service provider and local stakeholders in hundreds of cities and schools across the country.<sup>1080</sup> The “cornerstone” of this approach was “extensive partnership with a diverse array of leaders from the education, government, and nonprofit sectors,” including more than 2,000 state and local officials, 1,000 community-based organizations (e.g., churches, libraries, and PTAs), and administrators and educators in over 4,000 school districts.<sup>1081</sup> Schools have served as the primary conduit for promoting the program; high levels of engagement (e.g., formal partnerships with Comcast) “clearly resulted in more families participating in Internet Essentials.”<sup>1082</sup> Similarly, coordination and collaboration with local and state officials also contributed to strong results. These policy makers “create[d] an atmosphere of support and excitement around [the program] by encouraging local school districts to promote the program as a means of overcoming the achievement gap while providing a call to action for community-based organizations to utilize it as a tool to effect change in their communities.”<sup>1083</sup> Testimonials from local policy makers in cities like Chicago, Illinois,<sup>1084</sup> and Aurora, Colorado,<sup>1085</sup> attest to the enormous power municipal officials have to publicize effective demand side programs that help to realize shared goals for technology use and broadband connectivity in disadvantaged communities and cities generally.<sup>1086</sup>

**Chicago’s Smart Communities Program.** The Smart Chicago Collaborative was launched in the late 2000s to help improve the lives of residents in the city through the use of technology.<sup>1087</sup> A core founding principle of this initiative was the value of working with partners in the public, private, and nonprofit sectors to enhance broadband adoption by providing targeted digital literacy training courses in disadvantaged communities.<sup>1088</sup> These efforts were encouraged by a federal stimulus grant in 2009, which supported a program aimed at “spur[ring] economic development in five disadvantaged neighborhoods in Chicago with a comprehensive broadband awareness and adoption program that will include providing computers and training opportunities to more than 11,000 residents and 500 small businesses and not-for-profits.”<sup>1089</sup> Programmatic elements of this initiative included plans for creating “public computer centers at six community centers for working families,” as well as providing computing devices to “1,500 residents and small businesses who complete a

1076 See Internet Essentials, Learning Center, <http://learning.internetessentials.com/>.

1077 See David L. Cohen, *Year Three Internet Essentials Progress Report*, March 4, 2014, Comcast Voices Blog, available at <http://corporate.comcast.com/comcast-voices/year-three-internet-essentials-progress-report>.

1078 *Id.*

1079 See David L. Cohen, *Internet Essentials Program Reaches 1 Million Low-Income Families*, Oct. 29, 2013, Comcast Voices Blog, available at <http://corporate.comcast.com/comcast-voices/internet-essentials-1-million-milestone-blog-post>.

1080 To date, the program has been “[p]ublicized...in more than 4,000 school districts and more than 30,000 schools.” *Id.*

1081 See *Internet Essentials Launch Report*, at p. 27, Comcast (Jan. 2012), available at <http://www.internetessentials.com/sites/internetessentials.com/files/reports/launchreport.pdf>.

1082 *Id.*

1083 *Id.* at p. 30.

1084 See Rahm Emmanuel, Mayor of Chicago, *What Internet Essentials Means to Chicago Families*, Sept. 16, 2013, Comcast Voices Blog, available at <http://corporate.comcast.com/comcast-voices/what-internet-essentials-means-to-chicago>.

1085 See William Stuart, Deputy Superintendent of Aurora Public Schools, *Breaking Down Learning Barriers with Internet Essentials*, Aug. 28, 2013, Comcast Voices Blog, available at <http://corporate.comcast.com/comcast-voices/breaking-down-learning-barriers-with-internet-essentials>.

1086 *Toward a More Inclusive Measure of Broadband Adoption* at p. 2567 (noting that “the nature of broadband adoption—and the design of successful attempts to promote meaningful uses—is largely community-specific and tends to vary from city to city, and even from neighborhood to neighborhood. The reasons for these differences are myriad and tend to involve a complicated array of social, economic, and political forces that often muddle outreach and training efforts.”).

1087 See Smart Chicago, *What We Do*, <http://www.smartchicagocollaborative.org/what-we-do/>.

1088 *Id.* See also Smart Chicago, *Project—Sustainable Broadband Adoption*, <http://www.smartchicagocollaborative.org/projects/broadband-technology-opportunities-program/sustainable-broadband-adoption/>.

1089 See Smart Chicago, *Project—Sustainable Broadband Adoption*, <http://www.smartchicagocollaborative.org/projects/broadband-technology-opportunities-program/sustainable-broadband-adoption/> (“*Smart Chicago Broadband Adoption Project*”).



multi-session training course.”<sup>1090</sup> The structure and scope of this particular initiative was developed collaboratively by nonprofit groups and community partners in close consultation with the city of Chicago.<sup>1091</sup> Smart Chicago worked with the city to administer the grant, while partner nonprofits and community groups assisted in program implementation.<sup>1092</sup> As of the middle of 2013, this demand side program had “cause[d] 11,386 households or businesses to become new broadband subscribers”; related efforts have resulted in thousands of additional new connections across the city.<sup>1093</sup>

**Zero Divide.** A multifaceted nonprofit, Zero Divide partners with “funders, government entities and businesses ... to provide mission-driven consulting services to create social change via the power of technology.”<sup>1094</sup> More specifically, the organization works with its partners to design and implement innovative ways to use technology to “achieve three outcomes—civic engagement, economic opportunity, and health.”<sup>1095</sup> To date, it administered an assortment of grants from private, nonprofit, and government institutions, including a stimulus grant focused on improving “broadband access for youth with limited or no access to digital and information technology in the home”<sup>1096</sup> and a grant from the Hewlett, Irvine and Packard Foundations to help “20 small-budget, minority-led nonprofits learn how they might better leverage technology to support their day-to-day mission-based work.”<sup>1097</sup>

**Assessment.** Collaborative PPPs spearheaded by leading private and nonprofit organizations and deployed in partnership with local officials prove enormously effective in bolstering broadband use in disadvantaged communities. The most successful efforts position government as a conduit for raising awareness of these programs and facilitating broader outreach in discrete communities.

### Demographic-Specific Demand Side Program

There is growing recognition among stakeholders in the broadband space that barriers to connectivity are largely unique to discrete user groups.<sup>1098</sup> In response, community groups and expert nonprofits are increasingly working with local policy makers and private firms to develop group-specific outreach and digital literacy training programs. To date, a number of such demand side programs have emerged and succeeded in tailoring programmatic content to meet the distinctive needs of a particular under-adopting group. This section profiles one of the most successful demographic-specific training organizations in the country: a nonprofit group that has had enormous success in bringing senior citizens online.

**Older Adults Technology Services (OATS).** OATS is a nonprofit organization that engages, trains, and supports older adults in using technology to improve their quality of life and enhance their social and civic engagement. Founded in 2004, OATS employs a teaching model specifically tailored to seniors. All of its classes are free and made available to older adult students in senior centers across New York City and increasingly in other cities across the country. Classes range from basic introductory courses to advanced computing and workforce development modules.<sup>1099</sup> To date, OATS has taught over 12,000 classes.<sup>1100</sup> Many participants enter the introductory classes as new Internet users; most are wary of the Internet and skeptical of its value.<sup>1101</sup>

<sup>1090</sup> *Id.*

<sup>1091</sup> See *A Platform for Participation and Innovation: Smart Communities in Chicago Master Plan*, LISC/Chicago et al. (Dec. 2009), available at [http://www.gagdc.org/uploads/gagdc/documents/smart\\_communities\\_in\\_chicago\\_master\\_plan\\_v8.pdf](http://www.gagdc.org/uploads/gagdc/documents/smart_communities_in_chicago_master_plan_v8.pdf).

<sup>1092</sup> *Smart Chicago Broadband Adoption Project*.

<sup>1093</sup> See City of Chicago, *Quarterly Performance Progress Report for Sustainable Broadband Adoption—Q2—2013*, at p. 2-3, U.S. Dept. of Commerce, NTIA (Aug. 2013), available at [http://www2.ntia.doc.gov/files/grantees/17-43-b10507\\_city\\_of\\_chicago\\_ppr2013\\_q2.pdf](http://www2.ntia.doc.gov/files/grantees/17-43-b10507_city_of_chicago_ppr2013_q2.pdf).

<sup>1094</sup> See Zero Divide, *Our Approach*, <http://www.zerodivide.org/approach>.

<sup>1095</sup> *Id.*

<sup>1096</sup> See Zero Divide, *Clients, Case Study: National Telecommunication & Information Administration*, <http://www.zerodivide.org/clients/case-studies/case-study-national-telecommunications-information-administration-ntia>.

<sup>1097</sup> See *Project Announcement: Community Leadership Project*, Jan. 24, 2013, Zero Divide Blog, available at [http://www.zerodivide.org/learning/blog/project\\_announcement\\_community\\_leadership\\_project](http://www.zerodivide.org/learning/blog/project_announcement_community_leadership_project).

<sup>1098</sup> See *supra*, section 3.1.2, for additional discussion. See also *Toward a More Inclusive Measure of Broadband Adoption; Broadband Adoption: Why it Matters & How it Works; Barriers to Broadband Adoption*.

<sup>1099</sup> See OATS, *Curriculum*, <http://www.oats.org/curriculum>.

<sup>1100</sup> See OATS, *Results*, <http://www.oats.org/results> (“OATS—Results”).

<sup>1101</sup> *Toward a More Inclusive Measure of Broadband Adoption* at p. 2560.



The vast majority of students, however, return for additional courses, and many report continued Internet and computer use months after their OATS experience.<sup>1102</sup> Equally important, these classes provide seniors with unique “opportunities to establish community ties,” which helps seniors overcome social isolation and “feel ... part of a community.”<sup>1103</sup> This has been found to “promote[] good mental health and overall well-being,” which is “essential to active aging.”<sup>1104</sup>

Partnerships and collaborative engagement with stakeholders in the public and private sectors have been essential to OATS’s success. For example, OATS worked with and through the New York City Department for the Aging to bolster its training footprint, using city funding to increase the number of classes and trainers available in dozens of senior centers.<sup>1105</sup> OATS also partnered with other nonprofits and anchor institutions to deliver a broad range of social services. A partnership with the nonprofit Per Scholas, for example, allowed OATS to pair its training with free computers, which were given to students who successfully completed a multi-week training course.<sup>1106</sup> Similarly, OATS collaborated with Maimonides Medical Center in New York City on a “pilot project to deliver home-based technology training to a group of patients in collaboration with the Maimonides Department of Geriatrics.”<sup>1107</sup>

These efforts were recently strengthened by a federal stimulus grant that was awarded to New York City to provide disadvantaged and under-adopting communities with “an array of new resources for digital literacy, employment support, and other critical services.”<sup>1108</sup> From this grant, OATS received over \$2 million to build the “country’s first—and only—technology-focused community center for those aged 60 and older.”<sup>1109</sup> The product of a PPP between “OATS, the federal government, the City of New York and corporate sponsors,” this facility features a “state-of-the-art computer lab with 23 high-end workstations, a studio for tablet and smart-phone training, video conferencing pods, a video gaming area and an open space for curated exhibitions, presentations and classes.”<sup>1110</sup> The goal for this Exploration Center is to further expand the reach of OATS, i.e., by training an additional 10,000 seniors each year; related efforts to enlarge its footprint in New York City include the construction of “23 technology training facilities and a mobile lab.”<sup>1111</sup> All of these efforts align with public policy imperatives—in New York City, as well as at the state and federal levels—to prepare public and government infrastructures for a senior population that is expected to almost double in size over the next few decades.<sup>1112</sup>

**Assessment.** The most effective demand side strategies are those that are tailored to meet the unique needs of under-adopting communities. This is especially true in discrete demographic groups (e.g., seniors; people with disabilities). Partnering with expert organizations with deep roots in these communities ensures better, broader, and more impactful outcomes.

1102 *Id.* at p. 2561 (providing favorable data from surveys regarding the impact of training classes on senior citizen participants). See also OATS—Results (same).

1103 See Paula Gardner et al., *Getting turned on: Using ICT training to promote active ageing in New York City*, The Journal of Community Informatics 8(1) (2012), available at <http://ci-journal.net/index.php/ciej/article/view/809>.

1104 *Id.*

1105 See, e.g., New York City Department for the Aging, Seniors and the Web, <http://www.nyc.gov/html/dfta/html/senior/seniors-and-web.shtml>.

1106 See, e.g., *Broadband Adoption: Why it Matters & How it Works* at p. 52.

1107 See *Response to Request for Information: Broadband Initiatives Program and Broadband Technology Opportunities Program*, at p. 2, U.S. Dept. of Commerce, NTIA (Nov. 2009), available at <http://www.ntia.doc.gov/legacy/broadbandgrants/attachments/rfi2/12C.pdf>.

1108 See, e.g., *Statement of Mayor Michael R. Bloomberg on \$20 Million in Federal Stimulus Awards for Broadband Adoption and Expansion*, Sept. 13, 2010, Office of the Mayor of the City of New York, available at [http://www.nyc.gov/portal/site/nycgov/menuitem.c0935b9a57bb4ef3daf2f1c701c789a0/index.jsp?pagelD=mayor\\_press\\_release&catID=1194&doc\\_name=http%3A%2F%2Fwww.nyc.gov%2Fhtml%2Fom%2Fhtml%2F2010b%2Fpr388-10.html&cc=unused1978&rc=1194&ndi=1](http://www.nyc.gov/portal/site/nycgov/menuitem.c0935b9a57bb4ef3daf2f1c701c789a0/index.jsp?pagelD=mayor_press_release&catID=1194&doc_name=http%3A%2F%2Fwww.nyc.gov%2Fhtml%2Fom%2Fhtml%2F2010b%2Fpr388-10.html&cc=unused1978&rc=1194&ndi=1).

1109 See Press Release, OATS Launches Country’s First Technology-Themed Community Center for Older Adults, March 7, 2013, OATS, available at <http://www.prweb.com/releases/2013/3/prweb10503817.htm>.

1110 *Id.*

1111 *Id.*

1112 See, e.g., *See Toward An Age-Friendly New York City: A Findings Report*, N.Y. Academy of Medicine (fall 2008), available at [http://www.health.state.ny.us/diseases/aids/conferences/docs/nyam\\_age\\_friendly\\_report.pdf](http://www.health.state.ny.us/diseases/aids/conferences/docs/nyam_age_friendly_report.pdf) (detailing findings and recommendations for making New York City a more age-friendly city); Charles M. Davidson & Michael J. Santorelli, *The Impact of Broadband on Senior Citizens*, at p. 11, Report to the U.S. Chamber of Commerce (Dec. 2008), available at <http://www.nyls.edu/advanced-communications-law-and-policy-institute/wp-content/uploads/sites/169/2013/08/BroadbandandSeniors.pdf> (discussing the impact of broadband on senior citizens within the context of a rapidly growing demographic group).



### 6.3.2 Examples of Ineffective “Top-Down” Demand Side PPPs

Recent examples of demand side programs that have failed are scant. In fact, many demand side programs in operation today evolved from efforts to more fully understand the dynamics of broadband adoption.<sup>1113</sup> As a result, these programs are typically tailored to address the unique needs of a particular user group or are framed as vehicles for removing specific barriers to broadband connectivity. Moreover, they are typically small in scale, working at the community level to engage in more hands-on education and training.<sup>1114</sup>

Initial attempts to address these issues, however, were not as successful and reflected a less nuanced, more homogeneous view of how broadband adoption worked in practice. Early attempts to measure and study technology use among the American public focused almost exclusively on whether and how people were using certain communications inputs (e.g., computers and the Internet).<sup>1115</sup> Formal responses by government to an obvious divide between the digital “haves” and “have nots” generally revolved around channeling funding to local institutions—dubbed community access centers (CACs)—that would serve as forums where the public could freely access computers and the Internet.<sup>1116</sup> These included public schools and libraries, which received funding via an E-rate program that was launched in 1996 and administered by the FCC,<sup>1117</sup> and community technology centers (CTCs), which received funding through direct allocations from the U.S. Department of Education.<sup>1118</sup>

From the specific vantage point of providing key populations with additional opportunities for simply accessing the Internet, these programs were largely successful. For example, in 1994 only 35 percent of public schools were connected to the Internet.<sup>1119</sup> After E-rate was implemented, connectivity increased significantly: the percentage of public schools connected to the Internet reached 95 percent in 1999 and 100 percent in 2003.<sup>1120</sup> Internet at the classroom level also increased exponentially over the same period of time, rising from just three percent of public school instructional rooms in 1994 to 94 percent in 2004.<sup>1121</sup> Similarly, tens of millions of dollars of federal funding supported the deployment of dozens of CTCs across the country, providing new access opportunities for thousands of residents in digitally disadvantaged communities.<sup>1122</sup>

These programs were less successful in addressing key demand side issues—namely, sustainable adoption and informed use—primarily because both were designed to focus primarily on the supply side. Initial successes in boosting access eventually gave way to concern that this type of approach to addressing important Internet connectivity issues—i.e., providing access without a tailored training component—would likely result in sub-optimal outcomes vis-à-vis ensuring that new users would be able to fully harness these tools. The CTC

<sup>1113</sup> These were discussed in section 3.1.2, *supra*. For additional discussion, see generally *Toward a More Inclusive Measure of Broadband Adoption: Why it Matters & How it Works*.

<sup>1114</sup> For example, many recipients of federal stimulus grants in the “sustainable adoption” category were cities or groups working at the city level or in a particular user community. For a listing of all grant recipients, see *Broadband USA, Grants Awarded: Sustainable Adoption*, <http://www2.ntia.doc.gov/sustainableadoption>.

<sup>1115</sup> See *supra*, section 3.1.2.

<sup>1116</sup> These were mentioned as early as 1995. See *Falling Through the Net I*.

<sup>1117</sup> The E-rate program is financed via the Universal Service Fund. For additional information, see FCC, E-Rate—Schools and Libraries USF Program, <http://www.fcc.gov/encyclopedia/e-rate-schools-libraries-usf-program> (“The schools and libraries universal service support program, commonly known as the E-rate program, helps schools and libraries to obtain affordable telecommunications services, broadband Internet access and internal network connections.”); Universal Service Administrative Company, Schools and Libraries (E-rate), <http://www.usac.org/sl/default.aspx> (providing comprehensive information regarding eligibility and application processes).

<sup>1118</sup> For an overview of the CTC program, see U.S. Dept. of Education, Community Technology Centers, <http://www2.ed.gov/programs/comtechcenters/index.html>.

<sup>1119</sup> See *Internet Access in U.S. Public Schools and Classrooms: 1994-2005*, p. 14, The National Center for Education Statistics (November 2006), available at <http://nces.ed.gov/pubs2007/2007020.pdf>.

<sup>1120</sup> *Id.*

<sup>1121</sup> *Id.* at p. 4.

<sup>1122</sup> See U.S. Dept. of Education, Community Technology Centers: Funding Status, <http://www2.ed.gov/programs/comtechcenters/funding.html>. See also CTCNet, About, <http://ctcnet.org/> (noting that this organization, which was established to facilitate construction of these centers and provide a range of support services, has about 175 member programs, many of which received funding from public and private sources).



model, for example, was criticized as being monolithic in its approach to bolstering Internet connectivity.<sup>1123</sup> In particular, by the early 2000s, some argued the CTC approach had largely “failed to address the multifaceted aspects of the digital divide” by focusing solely on providing access.<sup>1124</sup> A proposed solution was to use CTCs and other such programs as forums for training new users and helping them develop digital literacy skills.<sup>1125</sup> In response, a number of approaches were developed to address these gaps on the demand side by, for example, tailoring curriculums and other programmatic elements to the needs and learning styles of discrete user groups.<sup>1126</sup> Over time, successful initial approaches yielded best practices that proved essential to impactful private and nonprofit approaches that emerged in the late 2000s.<sup>1127</sup>

With regard to E-rate, more widespread Internet access in schools and libraries quickly highlighted the dearth of complementary demand side programs to ensure users were able to use these connections meaningfully. For example, one recent survey found that while two-thirds of library patrons had asked library staff for assistance with using the technology services on premise, only 14 percent received formal training.<sup>1128</sup> Nevertheless, many agree that such informal interactions and one-on-one assistance are invaluable secondary benefits that evolved organically from the growth of Internet access in libraries.<sup>1129</sup> Similarly, use of broadband-enabled educational tools in schools across the country lagged in recent years, due in large part to the lack of a comprehensive demand side strategy for leveraging these tools to enhance learning opportunities and outcomes for students.<sup>1130</sup> Recent initiatives, like the development of a national Common Core curriculum<sup>1131</sup> and formal reform of the E-rate program,<sup>1132</sup> as well as federal stimulus funding to support a range of training programs across the country, present unique opportunities to address these issues.

**Assessment.** Historically, many top-down demand side programs were unsuccessful because they were designed as one-size-fits-all initiatives to address problems that ultimately defied such monolithic approaches. In light of preceding discussions about the effectiveness of ground-up approaches, the success of modern top-down efforts hinges on stakeholders’ ability to engage expert organizations in local social infrastructures in an effort to tailor their outreach to meet discrete user groups’ unique needs.

1123 See, e.g., Craig Hayden and Sandra J. Ball-Rokeach, *Maintaining the Digital Hub: Locating the Community Technology Center in a Communication Infrastructure*, at p. 243-244 *New Media & Society*, 9(2) (2007) (discussing criticism of the CTC model) (“*Maintaining the Digital Hub*”).

1124 See Josh Kirschenbaum and Radhika Kunamneni, *Bridging the Organizational Divide: Toward a Comprehensive Approach to the Digital Divide*, at p. 8, Policy Link (Fall 2001), available at [http://www.policylink.org/atf/cf/%7B97C6D565-BB43-406D-A6D5-ECA3BBF35AF0%7D/BridgingtheOrgDivide\\_final.pdf](http://www.policylink.org/atf/cf/%7B97C6D565-BB43-406D-A6D5-ECA3BBF35AF0%7D/BridgingtheOrgDivide_final.pdf).

1125 See, e.g., *Maintaining the Digital Hub*. See also *supra*, section 3.1.2, for additional discussion about the shift in focus in the early 2000s away from access and toward the need for improving digital literacy.

1126 See, e.g., Linda Fowells and Wendy Lazarus, *Computers in Our Future: What Works in Closing the Technology Gap? Lessons from a Four Year Demonstration in 11 Low Income California Communities*, *Computers in Our Future* (2001), available at <http://research.policyarchive.org/6862.pdf> (describing the results of a pilot program designed to provide more individualized digital literacy training in low-income communities in California).

1127 See *supra*, section 6.231, for examples.

1128 See Samantha Becker et al., *Opportunity for All: How the American Public Benefits from Internet Access at U.S. Libraries*, at p. 42-45, Institute of Museum and Library Sciences (March 2010), available at [http://impact.ischool.washington.edu/documents/OPP4ALL\\_FinalReport.pdf](http://impact.ischool.washington.edu/documents/OPP4ALL_FinalReport.pdf).

1129 *Id.* See also *National Broadband Plan* at p. 176 (recommending that additional resources be sourced to libraries and other public institutions in an effort to bolster digital literacy training opportunities).

1130 See, e.g., Charles M. Davidson and Michael J. Santorelli, *The Impact of Broadband on Education*, a Report to the U.S. Chamber of Commerce (Dec. 2010), available at <http://www.nyls.edu/advanced-communications-law-and-policy-institute/wp-content/uploads/sites/169/2013/08/Davidson-Santorelli-The-Impact-of-Broadband-in-Education-December-2010-FINAL.pdf> (identifying and discussing related impediments to more robust adoption and use of broadband in the education space) (“*Broadband & Education*”).

1131 See Amber Parks, *Understanding the Central Themes of the Common Core Standards and the Need to Develop Digital Literacy and 21<sup>st</sup> Century Skills in Today's Classrooms*, Learning.com (Aug. 2013), available at <http://www.eschoolnews.com/files/2013/08/Digital-Literacy-Common-Core-white-paper.pdf> (providing an overview of digital literacy requirements included in the Common Core).

1132 See *Modernizing the E-rate Program for Schools and Libraries*, Notice of Proposed Rulemaking, WC Docket No. 13-184, FCC 13-100 (rel. July 23, 2013), available at [http://transition.fcc.gov/Daily\\_Releases/Daily\\_Business/2013/db0723/FCC-13-100A1.pdf](http://transition.fcc.gov/Daily_Releases/Daily_Business/2013/db0723/FCC-13-100A1.pdf) (calling for public comment on an array of proposed reforms to the structure and administration of the program). Over the last few years, the FCC has engaged in a number of related reform activities. For an overview, see *Broadband & Education* at p. 67-69.





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# **Part IV**

## **Additional Perspectives**

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# 7

## Additional Perspectives

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The following essays are offered to provide additional perspective on the complex and multifaceted issue of government-owned broadband networks. The authors of these contributions include a diverse array of current and former policy makers, policy experts, and others with a distinct point of view on the many issues implicated by the GONs debate. The views expressed in these essays are those of their author only and do not necessarily reflect those of the authors of the main paper.

### Perspectives from State Government Practitioners

#### 7.1 What Drives Economic Development?

**Chris Hart**, President and CEO, CareerSource Florida; former Interim Director of the Governor's Office of Tourism, Trade and Economic Development; Senior Vice President at Enterprise Florida; member of the Florida House of Representatives, and businessman

As someone who has spent a career working to bolster economic development throughout the state of Florida, via positions in the public, private, and nonprofit sectors, I am intrigued by recent discussions regarding government-owned broadband networks (GONs). What especially piques my interest is that some see these networks as a "silver bullet" for local economic development. In my many years in this field, I can safely say that, much to my dismay, no such "silver bullet" exists. On the contrary, economic development is hard work that requires a wide variety of inputs and efforts to succeed.

While in some cases a broadband network of any kind—public or private—might serve as a catalyst for growth and job creation, the reality is that state and local policy makers work very hard and experiment with a number of different approaches to see what works in a given situation. The most successful approaches to economic development do not artificially choose which technology or platform or sector will be the driving force in a city or region. Rather, policy makers work with local counterparts in the private and nonprofit spaces to determine, in a very practical manner, what the area can reasonably sustain, foster, and grow. We ask questions like:

- What are the area's core strengths and weaknesses?
- Is the population amenable to new types of businesses?
- Do we have a talent delivery system in place to ensure we have the right skills, at the right time, available to support existing, emerging, and evolving business needs?
- How much growth can a town or city or region accommodate?
- Are core public infrastructure inputs—roads, bridges, ports, railways, etc.—reliable and able to support greater use?
- Perhaps most importantly we ask about goals—what does the area want to achieve in terms of quality of life, jobs, economic growth, etc.? Are these goals reasonable and achievable? Will the benefits ultimately outweigh the costs of realizing them?

Once these questions are answered, then it's time to begin developing a plan for achieving specific goals. Successful efforts here hinge on close collaboration with stakeholders in the public, private, and nonprofit

sectors. Whatever policies emerge stand a better chance of succeeding if they are grounded in the real needs and wants of the people they are meant to impact. Major components of the economic development plans that emerge from this type of process typically include:

- **Tax incentives.** At the heart of many economic development efforts are various kinds of tax incentives. These are structured to support growth of new businesses, facilitate continued growth of existing firms or sectors, or encourage the relocation of major new firms to serve as the center of a new sector. More often than not, these types of direct economic incentives are among the most impactful from an economic development standpoint and the most attractive to firms contemplating expansion or relocation.
- **Workforce development.** In addition to creating a hospitable economic and tax climate, it is essential that stakeholders work to ensure there is sufficient human capital to meet today's needs, fuel growth, and seed innovation. Increasingly, most firms, especially those in the manufacturing and "knowledge" industries, require workers with increasing levels of technical competency and industry-recognized credentials. As a result, many cities and regions are working with workforce boards, community colleges, and other demand-driven institutions—public as well as private—to establish in-demand and customized training programs for these very purposes.
- **Regulatory and legislative concessions.** Depending on the industry or sector, it might sometimes also be necessary to ease or remove barriers to entry and otherwise foster a supportive regulatory environment for certain new businesses. The goal is not to give a particular firm or type of firm a leg up on competitors. Rather, the goal is to create conditions that are conducive to more rapid growth across the sector. At times, this might require revisiting older rules and regulations that have resulted, intentionally or not, in insulating a segment from competition or that have created disincentives around investment and innovation.

Infrastructure is also critically important and requires similar creative responses by state and local stakeholders. A new factory, for example, might benefit from easy access to major highways, ports, or railways to transport their goods. Assuring this type of access is among the core competencies of local government—they can either build it themselves or forge a public-private partnership to accomplish the task. Similarly, a new data center or high-tech computing company might require significant electrical inputs to power processors and cooling systems. Local government could work with the appropriate utility to assure delivery of this input. For firms that need robust access to high-speed Internet connectivity, the approach is similar: government can work with existing service providers in the first instance to get where the city or region needs to be in terms of availability, connection speed, etc. In general, this type of approach—leveraging core competencies and working with expert firms to realize common goals—often yields the most productive and cost-effective solutions.

The best economic development plan, ultimately, is the one that best addresses the needs and goals of a specific area. There are no one-size-fits-all solutions when it comes to solving the riddle that is economic development. Because it is so complex and requires so much time and energy to get right, it is critical that state and local policy makers work in concert with counterparts in the private and nonprofit spaces to determine the best path forward.

## 7.2 Putting Government-Owned Broadband Networks in Proper Context

**Ryan Palmer**, Commissioner, West Virginia Public Service Commission, and

**Luz Weinberg**, Commissioner, Aventura, Florida; Board Member, Miami-Dade Expressway Authority

As public officials serving at the state and local levels in West Virginia and Florida, we appreciate the many nuances associated with broadband connectivity and what those nuances mean for our communities. High-speed Internet access is increasingly essential to the communities we serve. Bringing broadband to every part of the country and helping ensure that as many people as possible are using it to improve their lives are important policy priorities. However, several barriers continue to impede progress towards these goals. As a result, much of our concern in this space is focused on addressing practical issues, like promoting the benefits of Internet access to reluctant non-users (for example, older adults, rural users, and so many in minority communities), and working with stakeholders to figure out how to efficiently and effectively bring broadband to unserved and underserved areas.



In many ways, the debate over government-owned broadband networks (GONs) implicates much of our focus on these issues. Some think that local governments are best positioned to provide residents with fast, affordable Internet access. Others think that these services are best provided via a competitive private marketplace. In all truth, both views have merit because different problems often require different solutions. Regardless of who is "right" and who is "wrong," what often gets lost in the heated GONs discussions is a focus on the universe of other critically important public policy issues that compete for the attention as well as the funds of state and local policy makers.

When we think about GONs, we immediately think about infrastructure. Ultimately, that is at the heart of what we do: we work on the public's behalf to make sure that they have access to robust public infrastructure at reasonable rates. That means making sure that our streets are paved, our electricity is reliable, and water is clean and affordable, which have been challenges in both Florida and West Virginia. However, our efforts are ultimately constrained and defined by financial realities.

Budgets are not unlimited, which means public officials must prioritize. There is no getting around that basic fact. The streets will always be paved, but new public works might be delayed. Similarly, a diverse array of economic considerations influences how we manage core public assets like the electric grid and water system. Yet, a significant amount of work remains to be done across the country when it comes to our public infrastructure, much of which is aging and in need of replacement or a significant upgrade. Chronic underinvestment, a function of tight budgets and finite public resources, has resulted in far too many poor roads, unsafe bridges, and antiquated public utility systems.

In short, when considering whether to invest large amounts of public money on GONs, public officials must consider the entire universe of public infrastructure needs. Each state and community has their own unique challenges and must decide how to address all of these challenges with the resources and funds available. As a result, when we are faced with broadband expansion and adoption issues, we focus on fostering an environment and implementing policies that are most impactful given the scope of our authority, the realities of our citizenry and economy, and the needs of our basic public infrastructure. Hopefully, the result is a carefully calibrated and collaborative effort focused on creating favorable conditions to support increased broadband connectivity.

The ultimate goal is for this practical approach to enable us public officials to not just listen to our local communities but to also respond to their needs and keep focused on the undisputed fact that ensuring ubiquitous broadband for all is a legitimate priority, amongst so many that require considerable resources and leadership from both the public and private sectors.

### **7.3 The Truth About Municipal Broadband in Minnesota**

**Representative Linda Runbeck, Minnesota State Legislature**

My home state of Minnesota is a battleground on the issue of municipal broadband. As a State Representative, I have witnessed a number of communities approach the issue of broadband access with various plans and policies. Some municipalities have incentivized private investment, while others have built their own networks.

As an elected official, I've come to believe that broadband service is beyond the scope of local government's core duties. I oppose municipal broadband not only because it puts government in competition with the private sector, but because local governments are not up to the task of running a municipal broadband network.

I have seen a number of municipalities put the taxpayers at risk based on the assumptions and promises of vendors and consultants. Local officials are sold a "bill of goods" and told that a city-owned broadband network will be an economic savior, will be able to pay for itself and even provide additional revenues to the city.

But local officials rarely take into consideration the fact that these businesses have financial incentives that may be in conflict with the objectives of the municipality. Policy makers rely on their promises to the detriment of constituents and taxpayers.

The decision to enter this competitive market should be made by those who have the most at stake: the taxpayers. Elected officials should acknowledge the complexity of the situation and limit their business interests in competitive markets.

### **Municipal Broadband Is Beyond the Scope of Government's Core Duties**

From a philosophical as well as an economic perspective, I believe that using taxpayer money to further government entrance into the competitive broadband industry represents a misguided understanding of government's role vis-à-vis its citizens.

Local governments are good at a lot of things: building roads, operating utilities and managing professional law enforcement units. But local governments are ill-prepared for operating a complex business model in a highly competitive marketplace.

As a former city councilmember and wife of a current councilmember, I am familiar with the abilities, advantages, constraints and limitations of local government. And as a former small business owner and corporate executive, I am also familiar with the demands and pressures of private industry and market competition.

My time in both worlds leads me to conclude that local governments are just not up to the task of operating a business like broadband in such a competitive market. Local officials are often limited in their time. They do not have the requisite business acumen to accurately assess consumer demand and finance these projects effectively. *A lack of business acumen and experience, coupled with the restraints and limitations of public office, can lead to a high frequency of failure for investors or financial bail-outs by taxpayers.*

### **Municipalities Are Often Sold a "Bill of Goods"**

Local governments often see municipal broadband as an economic savior or a way to boost city revenues in a poor economic climate. They believe that a municipal broadband operation will bring in new employers and generate revenues. Some broadband vendors are eager to reinforce this narrative, even if the numbers and figures demonstrate the opposite.

These vendors often present idealized expectations that omit a true assessment of the risks, the pitfalls and the substantial capital costs of owning and operating a municipal broadband system.

Minnesota has several communities that have bought into these promises, only to find themselves mired in debt with a struggling network. Monticello, a city in Wright County, embarked on building a municipal network hoping it would bolster the city's economy and generate additional revenues for the city. Monticello borrowed more than \$26 million to finance the construction and operation of a government-owned network, FiberNet. While the city and the network's developers projected high subscriber rates and a quick return on investment, the outcome could not have been anymore different. FiberNet lost \$2.6 million in 2011 and the city defaulted on its bond payments the following year.

Unfortunately for the city and its residents, the competitive broadband market proved difficult to penetrate, and the task of operating the business daunting. The old saying, "if it sounds too good to be true, it probably is," is rarely so applicable. *Communities must be vigilant when examining these kinds of "opportunities" and acknowledge that optimistic facts and figures may be inaccurate as a result of inherent conflicts of interests.*

Hiring an independent financial analyst to advise elected officials is a wise precaution.

Consultants, developers, suppliers, and financiers all have an interest in the sale of their goods or services. *These conflicts can and do result in too-optimistic projections and inflated figures that prevent local officials from fully appreciating the risks and difficulties of operating a broadband network.*

Municipal broadband supporters are often critical of the "bottom-line mentality" of the private sector, but rarely do they acknowledge that this mentality is equally present in the municipal broadband industry. Policy makers must be cognizant of these conflicts when deciding whether to invest in municipal broadband and should make efforts to effectively communicate these concerns to their constituents.



## **Constituents Must Have Input into a Community's Decision to Build a Network**

Residents of municipalities throughout Minnesota can be excluded from the decision-making process when it comes to approving a municipal broadband project. This exclusion is in contravention of the spirit of Minnesota's laws and contrary to the concept of "local self-reliance" — a slogan used to frame the municipal broadband debate as a David versus Goliath struggle. The exclusion of taxpayers who directly and indirectly pay for the cost of the network does not further community involvement or self-reliance.

Minnesota law requires a municipality to hold a referendum before forming a telephone service. These requirements were put into place decades ago to ensure that the formation of a competitive business is in furtherance of the will of the people. Unfortunately the law does not extend to broadband services. Without such protections, the will of the people can be ignored by local governments, the municipality's solvency is risked, and citizens' hard-earned tax dollars at risk.

### **Lessons Learned**

Municipal broadband is beyond the scope of government's role. Governments are intended to represent the will of the people and provide goods and services, but the parameter of that role does not cover instances where those goods and services are being adequately provided by the private sector. In short, local governments are ill-equipped to participate in a competitive market.

## **Perspectives from Local Government Practitioners**

### **7.4 Beyond GONs: Appreciating the Many Roles that New Technologies Can and Should Play at the Local Level**

**By Carole Post**, Executive Vice President & Chief Strategy and Operations Officer, New York Law School; former Chief Information Officer of New York City and Commissioner of the City's Department of Information Technology & Telecommunications

Local officials, especially those in municipalities with large, diverse populations like New York City, face a daunting array of issues that impact everyday life for thousands or millions of residents. Meeting these many needs typically requires an equally large government infrastructure that can develop and implement policies to affect real change in key communities and sectors. Fortunately, an array of new technologies, from high-speed Internet connections to social media, is helping to improve how officials engage in the day-to-day work of city government and facilitating more direct engagement with residents. While "big" issues like government-owned broadband networks (GONs) are compelling, if not ambitious, initiatives to pursue, "smaller" advances in the use of technology by government are continuing to have profound impacts on how cities serve their residents.

During my time in the administration of former New York City Mayor Michael Bloomberg, I had the privilege of being able to collaborate with an extraordinary group of forward-thinking innovators, both within city government and throughout the city's emerging high-tech ecosystem. Together, we were able to develop a number of creative and impactful solutions that sought to both streamline how government works, so as to be more responsive to citizens' needs, and to make our work more open, which in turn would help fuel further innovation and creativity in the development of citizen-focused services.

A key enabler of these efforts was data, namely the vast trove of information that every city collects in the normal course of delivering services and administering municipal programs. Mayor Bloomberg was a pioneer in harnessing this data to carefully tailor responses to discrete issues. This data-driven ethos pervaded his administration and led to the implementation of a range of incredibly successful programs across every agency, from the Police Department to Sanitation. From the perspective of using data to enhance citizen engagement, the Department of Information Technology & Telecommunications (DoITT) worked to spearhead, among other things, one of the nation's first municipal open data laws. This law facilitated the release of public data sets in an effort to increase transparency and to encourage innovators to develop new tools for our



increasingly tech-savvy population. And unlike many legislative efforts that often result in a congratulatory bill-signing, only to go silent when it comes time to implement, New York City's open data law has been the subject of active and aggressive implementation to meet its required milestones. At the time of this writing, DoITT had published thousands of data sets, a data release plan for when more data would be forthcoming, and an interactive data release progress dashboard. Moreover, the plans will be updated each year and will serve as a roadmap for the eventual publication of all publicly-available data in a single web portal.

Of course, these new tools are only useful to those citizens who are able to access them and who know how to put them to meaningful uses. The real promise of broadband, especially in the context of local government, is that it can support the delivery of critical information and important services in a number of new ways. For many residents, going online via a smartphone or a tablet, at home, in a park, or on the street, is second-hand. This is certainly the case in New York City, which is among the most hyper-connected cities in the world. As a result, our work on broadband issues revolved mostly around helping to enable continued improvements in service and promoting use of new technologies in underserved communities.

From the access side, we forged a number of partnerships with service providers in an effort to speed deployment of Wi-Fi in our city's many parks, to build technology centers in dozens of communities, and to support the continued development of the city's thriving start-up space.

From the use side, we leveraged tens of millions of dollars of federal stimulus funds to forge additional partnerships with private firms and nonprofit organizations and deploy first-in-kind outreach and digital literacy training programs in public middle-schools and workforce development centers across the city.

Together with our work around open data, these efforts constituted a comprehensive yet very practical approach to harnessing new technologies and putting them to work for city government and citizens.

From a governance perspective, it is critical that local officials embrace the many new tools and platforms that are emerging and work with, rather than compete against, the experts that are developing them and making them available. City government doesn't need to be expert in all things tech – and it is probably unwise and futile to attempt to be – but it should strive to be informed and open to new ideas and new ways of doing things.

## **7.5 Glenwood Springs and Municipal Broadband**

**David Merritt**, Consulting Water Resources Engineer and former City Councilor, Glenwood Springs, Colorado

I served on Glenwood Springs City Council from 2001–2009. One of my very first votes was whether or not to go ahead with a plan to build a municipal broadband network. I was skeptical of the financial viability of the project, but the majority of the city staff and council were in favor of it. We ended up going through with it and building a small fiber network that provides services to municipal buildings and businesses in the core of the city.

At the time, Glenwood Springs was served by Qwest and Comcast, although market penetration was relatively weak. Qwest and Comcast had made statements that they intended to develop the Glenwood Springs market, but they were slow to build out new infrastructure. The city government's dissatisfaction with the pace of broadband development led to a push for a municipal network.

The city borrowed \$3.5 million under Glenwood Spring's electrical utility. The network was launched in 2002 and initially provided fiber access to municipal buildings and local businesses, but not consumers. It has only been through third-party contracting that "point to point wireless" was established for residential users and business users outside the central core. The infrastructure has also been used to provide VoIP to businesses located within the central core that is physically connected to the fiber-optic cable.

From an operational standpoint, the network can be construed as successful—the city does have more internet access. But from a financial standpoint, it's not been the success that was anticipated for the city. In the



early years, the network hemorrhaged tax dollars and ratepayer money. The city had used annual cash infusions from the electric utility to keep the network operational, but has now managed to keep operational costs nearly within revenues. However, there will be capital upgrades required which will again stress finances.

My experience as a councilmember at the formation of the network should provide other elected officials with some perspective and insight. There are a number of concerns and unknowns that we in Glenwood Springs faced. I hope that sharing these concerns and experiences with others will help cities decide whether or not to build a municipal network.

### **Set Realistic Expectations**

The City Council and staff believed that the fiber network would provide additional revenue for the electrical utility and the city. Despite optimistic projections, the reality was that the network did not produce a profit during the entirety of my tenure on the City Council. Municipal broadband is too risky to expect profitability, but when necessary should be viewed as providing an essential service.

After the network began running on a deficit, the city government reset expectations. Glenwood Spring's City Council realized that the network would not generate the revenue that was initially forecast. The city was forced to accept the fact that the network would require revolving subsidization.

When examining a municipal broadband project, city governments must set realistic expectations. Proper planning requires a careful and measured analysis of all factors. Conservative planning will ensure that a city will lose \$10,000 rather than \$50,000.

### **Do Not Invest Good Money after Bad**

Cities and towns tend to invest good money after bad when it comes to broadband networks. The logic is based on using sunk costs to justify further spending—if the network is failing, the answer to the problem should not be further investment.

The Glenwood Springs government was tempted to expand into the retail space in 2007, offering cable television and residential telephone service. The thought was that if the network offered more services they could make more money and possibly generate a profit. Supporters of the expansion sought to put good money after bad in an attempt to make the network turn a profit, but this would come at a substantial risk.

The City Council voted against the plan. I think we saved the city from being in the hole for millions. Residential expansion is costly and even more risky. We in the City Council voted to maintain the network's focus on high-value concentrated businesses in the city's core areas rather than building out expansive and expensive infrastructure into the surrounding community.

### **Involve All Interested Parties in the Process**

Taxpayers, elected officials, community organizations and businesses all have a stake in conversations regarding broadband. Accordingly, these individuals and groups should have a hand in the decision-making process.

The city kept the network relatively under the radar. We chose to extend the discussion to the local Chamber of Commerce, but not to citizens and community organizations. In hindsight, this was not the best approach.

It does not matter that the network was not conceived to be a retail broadband provider—it still put taxpayer dollars at risk and the community should have had a say in pursuing the project.

### **Be Mindful of Those Pushing for a Municipal Network**

Cities often rely on consultants to plan and design municipal networks because governments lack the requisite expertise to do so in-house. Though they possess expertise on these issues, these folks are also self-interested because they generally have a stake in an outcome that involves the construction of a government-owned broadband network. Such self-interest can have negative consequences for municipalities.

The consultants arrived into Glenwood Springs like “The Music Man.” They overpromised the networks, and many in the city felt like we were over-sold. Many members of the City Council wanted to believe that the consultants’ estimates and projections were a guarantee, but they were not.

Elected officials should temper their optimism and recognize that consultants and counterparties have a vested interest in cities and town going ahead with municipal broadband projects.

### **Investment Invites Competition**

While Glenwood Springs’s network does not provide direct retail service to citizens, it has facilitated the entry of two ISPs who do provide the connection between the retail consumers and the system. Market competition is a good thing for consumers, but municipalities are often ill-equipped to effectively compete with private firms.

Incumbent providers have continued to build out their networks in Glenwood Springs. Private investment in the area has led to an increase in competition, which in turn has resulted in better services and lower prices. These low prices force Glenwood Springs to keep their own prices low despite the network’s need for additional revenue to make the network profitable.

Elected officials should recognize that investment invites competition, and the private sector is in the business of competition. Any municipal plan should take into account that it will likely be in competition with national providers who have numerous advantages over public sector entities, from expertise to economies of scale.

### **Conclusion**

Glenwood Spring’s fiber network has had mixed results. It was promised as a business, but functions as a utility. The city has made the best of the situation and minimized the risk by limiting investment. Elected officials should be conservative in their investment, careful with their planning, and tempered in their optimism. Competition, bad investments, and poor planning can easily turn a municipal network into a million dollar loss.

## **7.6 Lessons Learned from Marietta’s Fibernet Failure**

**Bill Dunaway**, former Mayor, Marietta, Georgia

Marietta, Georgia, operates its own utilities and has done so for the past 100 years. When utility companies saw deregulation looming, they wanted to get into the broadband business to make up for what they expected to be a loss of revenues from their core energy business.

The city itself was well served from an Internet perspective. We had incumbent providers offering high-speed service to individuals, businesses, and the city government. The underlying drive for a municipal network was not a lack of service. Rather, Marietta was concerned that their electric utility, which provides a bulk of the city’s revenues, would be diminished by deregulation.

The municipal network was originally laid out all over Cobb County and extended into Atlanta. The Cobb County school system was one of the network’s biggest customers, along with the county government. The network was exclusively wholesale—we did not provide fiber to the home. We spent about \$35 million on building and maintaining the network. But the network was never able to generate sufficient revenues.

I was elected in 2002 on the platform of selling the network. The town had been subsidizing the network with taxpayer money since its inception to the tune of \$1 million a year, an amount that was simply unsustainable. In 2004, we were finally able to sell the network at a loss of \$11 million. Selling at a loss was necessary to prevent future losses.



## **Upgrading and Maintaining Municipal Networks are Often Unforeseen and Hugely Expensive**

The cost of upgrading and maintaining a network is extensive. When cities discuss broadband, they tend to leave out the future costs created by the network. Technology moves quickly, and cities must keep pace. Elected officials have to realize that a commitment to building a broadband network is ongoing, and upgrades and maintenance will need to be made regardless of the network's profitability.

Marietta was ill-equipped to handle the speed of broadband technology and the rapid degradation of the infrastructure. Year after year, we were forced to divert money to the network for upkeep, despite low subscriber rates and poor performance.

Marietta was not prepared to spend \$1 million annually to subsidize the network and keep it maintained. Elected officials have to take into account the extent of their commitment. Infrastructure costs are not a one-time thing; they are ongoing and sometimes unpredictable.

## **The Risk of Selling at A Loss**

We sold the network at an \$11 million loss, and that is fortunate. When a network is unprofitable, it becomes a tremendous burden for the city government and taxpayers. In the case of Marietta, the network was such a burden that selling at such a staggering loss was still considered a positive conclusion to the boondoggle. It is not uncommon for a failed network to be worth less than the obsolete infrastructure that it is made of.

The rapid pace of technological advancement not only makes it difficult and costly to keep up with innovation, but it also leads a network to be almost worthless if it fails. Why would a prospective buyer want to purchase equipment and infrastructure that is already outdated? This is the problem I faced as mayor of Marietta.

We ultimately decided that a loss of \$11 million was a better option than subsidizing the network with \$1 million every year—it was the best and only option we had. No one wanted to buy an outdated network in a saturated market.

## **Selling a Network Can Be Extraordinarily Difficult**

Selling Marietta's Fibernet created a number of obstacles and challenges that I did not anticipate. Handling customer and taxpayer concerns, addressing the media, and dealing with competitive incumbents and prospective buyers makes the process of selling a failed network very difficult.

Prospective purchasers will try to get the lowest price they can, and in order to do so they will gather as much information on the network as possible. The local media was also interested in getting as much information about any impending sale as well. When parties are negotiating a sale, you do not lay all your cards on the table, but Georgia law required that I provide access to any city council discussion of the sale. This made it extraordinarily difficult to find common ground and agreement on a plan. We did not want to give too much information to prospective buyers that would harm our ability to negotiate, but government structure provides that we must be transparent and upfront with our citizens. Elected officials should recognize that the government restrictions may make a potential sale even more difficult.

Even if I was able to convince some of the council members that a sale was necessary, many still resisted the plan. Marietta has a weak-mayor form of government, which limited my ability to unload the network. Some members of the City Council viewed the network as their "baby" and would rather the city continue to prop the network up. Government structure can make getting out from under the network even more difficult than some elected officials realize.

Selling an unprofitable network presents a number of issues and obstacles that make it extraordinarily difficult. Elected officials should take these troubles into account when thinking about investing in a network—it may be easy to get in, but it's very difficult to get out.

## 7.7 Perspectives on the Davidson, North Carolina Experience

### 7.7a Lessons from MI-Connection, a GON in Davidson, North Carolina

Laurie Venzon, former Commissioner, Davidson, N.C.

For a long time, the town of Davidson, North Carolina, was a small, sparsely populated community with limited demand for broadband. But as the city began to change and grow, so, too, did its demand for connectivity. Davidson has a long history of poor communications service providers. Lakeside Communications, the original provider, was bought out by Prestige, and Prestige was bought out by Adelphia. During this time, Davidson's population and the population of the surrounding area began to skyrocket. There are currently over 11,000 people in Davidson and over 100,000 people in the Lake Norman region.

When Adelphia took over Prestige, Davidson's government negotiated with Adelphia for a right of first refusal to purchase the network's local assets in the event of failure or bankruptcy. The agreement allowed the town to exercise some control over broadband providers and the town's service. When Adelphia went bankrupt, Time Warner put in a bid for the system. Before the deal was approved, Davidson approached Time Warner and asked if they would honor certain provisions of the current contract with Adelphia: Time Warner Cable declined and indicated they had no intention of upgrading the system or providing the level of service in the Adelphia contract. This fueled Davidson's decision to pursue its right to purchase the system from Adelphia, cutting Time Warner out of the deal. Davidson formed a partnership with four other surrounding communities and began a due diligence process to analyze the viability of the towns running their own broadband network. Unfortunately, this reaction by local government set the stage for a costly investment that is still being paid for to this day.

#### Poor Planning and Erroneous Assumptions

The communities involved in the municipal broadband project hired consultants to analyze the feasibility of a government-owned network. The consultants found that a municipal network supported by Davidson and four other nearby towns would be successful. This projection was based on a number of assumptions that proved to be inaccurate.

The consultants' assumptions did not consider any competition that might arise in the market, believing that the area's subscriber base would not have any additional options, given the previous lack of interest from any company to invest in the area (not considered dense enough to be profitable). The consultants also included a modest 3–5% customer growth rate in their financial models which proved to be unattainable when the recession hit two years later. Yet, even with its optimistic assumptions, and a five-year payback period, three of the five member-cities backed out of the plan, which dramatically reduced the potential subscriber base.

Davidson should have backed out at that point as well. On paper, the plan worked for five towns, but it would be difficult to succeed with only two. Unfortunately, elected officials in Davidson felt they had come too far to turn back. With Mooresville and Davidson the only remaining towns left, they decided to proceed under the assumption that the network would still grow at a 3 to 5 percent clip annually and they could make up the subscriber base that the other towns represented. Thus, in August of 2007, MI-Connection was born. Eighteen months later, by January 2009, the reality was the network's subscriber base had fallen from 15,000 to 10,000 due to a variety of issues discovered after the purchase was made.

#### The Risks of Partnerships with Other Municipalities

Municipal networks represent risk. Competitive industries, such as broadband, carry an inherent potential for failure. Davidson believed that a partnership with other nearby communities would reduce the risk and provide a broader subscriber base. While these assumptions may be true in the abstract, they ignore the risks created by community-partnerships. *Every approach to a municipal broadband network comes with its own risks and benefits and needs to be objectively evaluated.*



A municipal network owned by one community provides the government more direct oversight of the network and more insight into the network's operations and subscriber demands. The network infrastructure is also likely to be substantially smaller because the geographic footprint is narrower. There are, however, a number of downsides. The financial risk is solely on the taxpayers of a single community; the network rises and falls with that one community. If the network fails, the debt load is not spread out among several communities; rather, it is placed solely on the backs of a single community.

Multi-town partnerships like MI-Connection, on the other hand, offer the benefits of diversifying risk and reducing overall debt loads. However, they also create a number of risks in the form of information asymmetries, potential conflicts of interest, different priorities between the municipalities, as well as, being susceptible to changing "political winds."

When I was elected Commissioner in November, 2007, I began to examine the network's contracts and our inter-local agreement with Mooresville to better understand the arrangement. The two towns had basically outsourced the operation of the network to Bristol Virginia Utilities while they maintained oversight through a MI-Connection board of directors. By January 2009, when MI-Connection was losing customers and money every month, I began to take a closer look at the situation. I discovered while the infrastructure had been upgraded to a state of the art fiber-optic network, the operations were functioning very poorly. In addition, the business arrangements they had made with other parties were very costly.

Furthermore, when I contacted several commissioners from Mooresville (Davidson's partner in the network), they stated that they were unaware of the network's struggles. Even though we were "partners" in the MI-Connection endeavor, we never discussed the network as a group. Mooresville was receiving information that we did not receive and vice versa. And there was some information that neither of the town boards received. Such an information asymmetry makes it difficult to effectively oversee a network. Once we realized that we had been kept in the dark about several challenges facing the network, the Davidson & Mooresville commissioners set up monthly meetings to address all the issues that had presented themselves and began the years-long process of digging ourselves out of the hole.

Another issue with multi-town partnerships is the likelihood that political differences can lessen the effectiveness of oversight. As the number of individuals tasked with network oversight is increased, the potential for conflict increases which may cause poor management and policy decisions. Add to that the factor of political elections every two years and a government owned network can quickly find itself in the middle of a political crossfire. This does not create the best type of environment in which to run a business.

## Market Demand

Municipal broadband networks do not operate in a continuum separate from market forces. Most, if not all, of the problems that municipal broadband providers encounter are the result of local officials' inability or inexperience to examine the market effectively. Typically, when an area is underserved, the market is indicating that the population density is too low for a high-speed broadband network to be profitable. Many elected officials focus on their constituents' request or demand for a network, but don't want to acknowledge that financial infeasibility is the major reason that broadband has not been deployed in a given area. Policymakers must understand that municipally owned networks will often require a large amount of subsidization especially in the early years or whenever infrastructure upgrades require capital infusion.

## Concerns and Risks

A municipally owned network failure does not just harm the local government; it harms the taxpayers along with the surrounding communities and the state. *The potential political and economic fallout of a government-owned system's failure must be taken into account by elected officials.*

The political fallout that resulted from MI-Connection's troubles was telling: only one person who authorized the network purchase in 2007 is left either of the Davidson or Mooresville town boards. In the ensuing years after the towns bought the Adelphia system, at every turn, citizens would continue to bring up the failing



network and would often refuse to support current projects as a result of their aversion to the wasteful spending on the MI-Connection endeavor. The damage that was done in terms of the public's trust was immense.

Additionally, in Davidson, the unexpected need to subsidize the network created financial difficulties. The subsidy amounted to 20% of our budget so we had to cut programs, cut staff, reorganize and charge residents a solid waste fee that equaled a 4 cent property tax increase. Needless to say, people were not happy.

The local economy can also be at risk when cities and towns invest in risky broadband networks. Davidson could have easily defaulted on their payments had the network failed. If Davidson was unable to pay its portion of the MI-Connection debt, the State of North Carolina may have been forced (via the Local Government Commission) to take over the town's finances and raise taxes (in the range of 10–12 cents per hundred—a 30% increase in the town's property tax rate). Communities run the risk of losing their autonomy if the town-owned broadband network fails.

Furthermore, the state's bond rating is at risk. If Davidson or any other municipality defaults on a loan or bond, the default could spill over into other cities in the state. Increased rates for other cities that did not invest in such risky endeavors would make it more costly for those governments to borrow money to fund other core needs such as public infrastructure—roads, bridges, sidewalks and water systems.

## Solutions and Best Practices

There are a number of mechanisms that elected officials can put into place to minimize risks and costs associated with broadband planning if they believe it is in the best interest of their constituents for their local government to own a broadband network. Referendums and public-private partnerships are options that should be considered versus simply having a board vote to take on the endeavor itself. Both the referendum and a public-private partnership provide municipalities with political capital, expertise, and cost-savings.

*Referendums and voter approval should be a requirement for any municipal network.* The voters' money is at risk, and they are the network's potential customers. Allowing voters to have a say in the network limits the political risk of building a network. In Davidson and Mooresville, the network's lack of voter support led to a number of elected officials being removed from their positions. If voters are given the opportunity to provide input in the planning stage of the network, they are more likely to "buy-into" the network and assume some of the responsibility to make it successful. With a majority providing front-end support, it is less likely for retaliation against elected officials to occur.

Referendums ensure that there will be an adequate customer base for the network. Cities can use the number of votes as a preliminary indicator of how many subscribers the network has the potential to begin with at inception. While a vote does not necessarily translate into a paying customer, it is an effective means of determining if there is adequate support in the community.

Finally, referendums are an issue of fairness. The municipal governments use taxpayer money and put it at risk. Municipal broadband networks are unlike other government infrastructure in that they are not universally used and they are subject to competition by the private sector. These factors increase the risk of failure and loss of taxpayer money. When elected officials are taking risks above and beyond the risks of what governments typically do, they should be required to seek out the approval of their constituents.

*Governments should seek out partnerships with private industry to minimize risk, diversify funding, and provide the network with the expertise that is not usually available to municipal networks.* A public-private partnership could create a win-win situation. The private sector is an efficient market that specializes in precisely what the municipality intends to do and will provide the expertise needed for the network to be successful. The public sector/municipality has access to very inexpensive borrowing rates for capital that could ensure financial feasibility of the network that might otherwise be lacking if capital had to be funded at market rates.

Public-private partnerships must mitigate the public information requirements via their partnership arrangement. A government's business is the public's business which creates a huge disadvantage for municipal networks. The requirement to allow public access to a municipality's documents, emails and other information



allows competitors to freely access information regarding the network. This includes operational performance, pricing data, strategic plans and marketing campaigns. Governments and private industry should structure partnerships in such a way as to limit these drawbacks while maximizing the benefits of the partnership.

## **Conclusion**

Municipal broadband networks are risky. Davidson and Mooresville put their towns, their taxpayers, and the state of North Carolina at risk when they devised a network according to a number of faulty assumptions and continued to move forward without the necessary base of subscribers that the financial models required for success. For other communities considering such an endeavor, the best course of action would be to first explore whether a public-private approach is possible. If not, then the municipality should seek a referendum to assure that the will of the people is being acted upon and to gauge market interest in such a service. Otherwise, the potential risks far outweigh any of the benefits.

## **7.7b Resuscitating a Failed Network**

**John N. Venzon**, Chairman, MI-Connection

As Chairman of MI-Connection, I have seen a municipal network at its lowest point, but I've also been a part of turning the network around. Being part of the network's management team has given me unique insight into the trials and tribulations of running a government-owned broadband network. I believe that these unique experiences will aid others in determining whether or not such a system makes sense in their community.

My first experience with MI-Connection came when my wife, Laurie, was elected a town Commissioner in Davidson, North Carolina. The network had already been bonded by the time of her election. Shortly thereafter, she began to ask questions about MI-Connection's financials. The responses she received from the management were shallow and obscured its financial condition. The evasive nature of these answers only encouraged us to dig deeper.

What we uncovered was shocking. The city had overpaid and over-borrowed, and the network was under-subscribed. The system, in short, was being mismanaged into the ground. The towns worked to revamp the board of directors and when I first joined I became the treasurer and then took over as chairman.

### **MI-Connection's Problems Began During Planning**

The planning stage of a network is vital to long-term success. Our investigation into the planning that went into MI-Connection revealed a number of fundamental problems.

We first determined that Davidson and Mooresville—the two partner cities—had significantly overpaid for the network. The overpayment was a result of events surrounding the previous owner's failure and bankruptcy. During the sale, the network appeared to have significantly more active customers than it actually did. As a result of these inflated subscriber numbers, the cities paid between \$5 and \$10 million more than the network was worth.

MI-Connection's original management team also outsourced a number of responsibilities that resulted in increased costs. And elected officials and managers were not providing the necessary oversight. We were essentially writing a blank check.

The network was in trouble. We ended up with \$92 million in debt, two different financing vehicles, and a network that essentially had \$15 million in revenue. When I began to attempt to revitalize the network, I approached both town boards and informed them that the current structure was not a viable business model and that it could not sustain the debt because it had no growth potential. My biggest fear was that we would default on the bond and the state would service the debt for us. If that happened, the state might also take over Davidson's government.